

AMENDMENTS TO THE CLAIMS

Claims 1-4 (Canceled)

5. (Currently amended) A suction valve, according to claim 10 [[1]], wherein the distance between the external edge and the internal edge diminishes more rapidly close to the fixation end portion than along the rest of the higher bending region.

6. (Currently amended) A suction valve, according to claim 10 [[1]], wherein the higher bending region extends from the region of the fixation end portion until about 50% the length of the flexible vane.

7. (Canceled)

8. (Currently amended) A suction valve, according to claim 10 [[1]], wherein the flexible vane is cut from a support blade, in order to have its external edge spaced from an adjacent cutting edge defined in said support blade by a gap wherein the gap is larger in its region adjacent to the fixation end portion of the flexible vane.

9. (Currently amended) A suction valve, according to claim 10 [[1]], wherein the flexible vane is configured to distributed the opening forces along the higher bending region such that the opening forces are not concentrated in a region of the bending median portion that is adjacent to the fixation end portion.

10. (New) A suction valve for a small hermetic compressor of the type presenting a compression cylinder, which has an end closed by a valve plate, said valve comprising:

a flexible vane comprising:

a fixation end portion to be affixed to the valve plate;

a bending median portion provided with a median opening aligned with a discharge orifice; and

a sealing end portion operatively associated with the suction orifice provided in the valve plate,

wherein a distance between an external edge of the flexible vane and its adjacent internal edge portion of the median opening diminishes more rapidly in a first portion of a higher bending region of the flexible vane close to the fixation end portion by way of a first curvature of at least one of the external edge and its adjacent internal edge and progressively in a second portion of the higher bending region of the flexible vane of the valve by way of a second curvature of at least one of the external edge and its adjacent internal edge, from a maximum value, close to the end fixation portion, to a minimum value, close to the boundary of the higher bending region of the flexible vane,

wherein the flexible vane is configured to distribute opening forces along the higher bending region allowing the flexible vane to be bent along the higher bending region in an open position,

wherein said flexible vane, presenting in its bending median portion and in its sealing end portion, a "U" shape with legs, the legs being symmetrical about a longitudinal axis of the flexible vane, the legs being of equal length and being united by the fixation end portion,

wherein the width of the median opening of the flexible vane increases, progressively, from a region adjacent to the fixation end portion to at least the opposite boundary of the higher bending region, whereas the total width of the flexible vane diminishes from the fixation end portion, at an initial portion, and then it begins to progressively increase towards the sealing end portion, from before the opposite boundary of the higher bending portion, and

wherein the median opening of the valve presents, along the higher bending region, a substantially semi-elliptical contour with its vertex being tangent with the fixation end portion.

11. The suction valve as defined in Claim 10 wherein the width (L) of the higher bending region is determined by the equation $L/L_o = ax^4 + bx^3 + cx^2 + dx + 1$, where L_o is the maximum width; the coefficients a, b, c and d are defined according to the rigidity and bending parameters of the flexible vane; and x is the ratio C/C_o , where C is measured along the horizontal axis of the higher bending region measured from the boundary of the fixation end portion and C_o is the length of the higher bending region.